which would hold the bill of lading and register the various changes in ownership, so that when delivery became due the master of the vessel could, by reference to that central register, ensure that a bill of lading was available and that delivery was made to the correct party. 30/ It seems that among the reasons that led to the abandonment of the project was the difficulty to assess the risk run by the central authority and to provide appropriate insurance coverage of the liability possibly incurred by the central authority in case of malfunction of the system.

87. A project combining features of the Seadocs project, reliance on the CMI Rules and use of both UNCID and EDIFACT messages is under consideration by the Baltic and International Maritime Council (BIMCO). The main characteristic of the project is that the central register would be operated by BIMCO itself. As it currently stands, the project does not clearly state the rules that would govern the liability of BIMCO in case of a malfunction of the system. It may well be the case that, given the increasing confidence in the technical reliability of EDI, the probability of such a malfunction would be considered much smaller than it would have been only a few years ago. If this were the case, the above mentioned risk might possibly be self-insured by BIMCO members participating in the system, at least up to a certain limit.

88. The Working Group may wish to consider the usefulness of elaborating statutory provisions that would enable parties to transfer, through an agreed upon electronic communication system, the title to goods while they are in the hands of a maritime carrier. Such an electronic transfer of title would present an alternative to transferring the title to goods by negotiating a traditional bill of lading. The Working Group may wish to bear in mind that the purpose of an electronic transfer of title may be to sell the goods or to establish a security interest in them. An example of an agreed upon electronic communication system designed for transferring the title to goods in transit is that envisaged in the CMI Rules for Electronic Bill of Lading, 1990.

89. Features of an electronic system designed to transfer the title to goods may be the following. Firstly, there would be an agreement between the consignor and the carrier that the carrier will, upon receipt of goods for carriage, establish an electronic record of the information that would normally be included in a bill of lading if one were issued. Secondly, the carrier would undertake to notify the person whom the consignor, i.e., the transferor of title, would identify as the transferee of title that the carrier holds the goods to the order of that transferee. Thirdly, the parties would agree that the carrier's notification concerning the transfer of title will be made only if the transferor and the transferee are in possession of the secret code that had been created by the carrier and given to the transferor of title. Fourthly, the parties would agree that upon effecting a transfer, the carrier will delete the secret code used to verify that transfer and will create another secret code; the new secret code would be given to the transferee, i.e., the current holder of title, in order to enable him to effect a further transfer of title. Fifthly, the carrier would undertake to deliver the goods at the place of destination only if the goods are claimed by a transferee that identifies itself by the secret code given to that transferee.

30/ See J. Richardson, "Non-negotiable transport documentation", in Trading with EDI - The legal issues (H.B. Thomsen and B.S. Wheble, editors, London, IBC Financial Books, 1989), p. 179.

90. A question to be borne in mind in considering any statutory provisions may be the risks and liabilities placed upon the parties involved for any failure in completing the notifications that are necessary for the transfer of title.

IV. POSSIBLE INSTRUMENTS OF HARMONIZATION

A. Uniform customs and practice

91. A number of suggestions concerning the possible preparation of non-mandatory rules on EDI were made in the context of a recent meeting of the ICC Working Party on Legal and Commercial Aspects of EDI. One suggestion was that there might be a need for the preparation of uniform rules that might possibly take the form of a revision of the UNCID Rules, with the aim of creating an instrument that would eventually acquire a legal value similar to that of the Uniform Customs and Practice for Documentary Credits (UCP). Another suggestion was that the ICC should undertake the preparation of contractual standard terminology ("EDITERMS") drafted along the pattern previously adopted for the INCOTERMS.

92. However, the general feeling expressed at that meeting was that it would be premature to attempt codifying commercial practice regarding EDI, since EDI was still at an early stage of its development and that no commonly admitted practice could, as yet, be identified and recommended for general use.

B. Model communication agreement

93. It may be recalled that, under the approach taken in recent years by EDI users in most countries, solutions to the legal difficulties raised by the use of EDI have been sought within contracts. One reason for the development of the contractual approach originates with a conception according to which the use of EDI for commercial purposes is to be envisaged essentially, if not exclusively, in the context of closed networks, created between a limited number of individual users or by third-party service providers (see above, paras. 35-36). A wider conception of EDI takes into account the possible development of open networks that would allow EDI users to communicate without their having previously adhered to a user group (see above, paras. 31-32). However, that wider conception of EDI does not preclude the use of closed networks and may envisage the development of contractual solutions to the legal issues of EDI as a first step that can help to resolve many of the present practical difficulties and to better understand the questions that will require the preparation of future statutory law (see A/CN.9/350, para. 66).

94. A number of public and private bodies have developed models for such contracts and thus determined what was described as "the proliferation of model interchange agreements". 31/ It may be foreseen that model communication agreements developed in the entire world are likely to provide, after some time, what has been referred to as "quasi-authoritative sanctioning of electronic trading and [serve] to reflect and unify, as well as suggest appropriate customs and practices". 32/

31/ See note 28.

32/ See M.S. Baum and H.H. Perritt Jr., Electronic contracting, publishing, and EDI law (New York, Wiley, 1991), p. 104.

95. A suggestion contained in earlier documents prepared by the Secretariat (A/CN.9/333 and A/CN.9/350) was to consider the preparation of a model communication agreement for worldwide use. The main reason for preparing such a text was that the existing texts were often incomplete, incompatible and inappropriate for international use since they relied to a large extent upon the structures of local law (see above, paras. 3-4). As requested by the Commission, the Working Group is to report to the Commission at its next session on the desirability and feasibility of undertaking the preparation of a standard communication agreement (see above, paras. 8-9). When discussing the issue, the Working Group may take into consideration the fact that WP. 4 has entrusted its legal rapporteurs with the task of developing an interchange agreement to be recommended at the international level for optional use. According to the programme of work of the legal rapporteurs, that project should be completed by 1995 (see A/CN.9/350, paras. 32 to 34).

96. In that connection, two different views were expressed at the twenty-fourth session of the Commission regarding possible options on future work. One view was that the Commission should only monitor the work carried out within the United Nations Economic Commission for Europe and make its decision on future work after reviewing the text that would result from the work of WP. 4. It was indicated that such an approach would help to avoid duplication of work and possible waste of United Nations resources. Another view was that the Commission would be a particularly appropriate forum for the preparation of a model communication agreement for worldwide use since it involved participation of all legal systems, including those of developing countries that were already or would soon be confronted with the issues of EDI. It was also pointed out that the preparation of a model communication agreement might serve a useful educational function in that it would help the Commission to decide what issues required the preparation of statutory law.

C. Statutory provisions

97. While practical solutions to the legal difficulties raised by the use of EDI are often sought within contracts (see above, paras. 35-36), it may be recalled that the contractual approach to EDI was developed not only because of its intrinsic advantages such as its flexibility, but also for lack of specific provisions of statutory or case law. The contractual approach is limited in that it cannot overcome any of the legal obstacles to the use of EDI that might result from mandatory provisions of applicable statutory or case law. In that respect, it is submitted that one difficulty inherent to the use of communication agreements results from uncertainty as to the weight that would be carried by some contractual stipulations in case of litigation. Another limitation to the contractual approach results from the fact that parties to a contract cannot effectively regulate the rights and obligations of third parties. At least for those parties absent from the contractual arrangement, statutory law based on a model law or an international convention seems to be needed (see A/CN.9/350, para. 107).

98. The Working Group may wish to consider the desirability and feasibility of preparing a uniform law with the aim of eliminating the legal obstacles and uncertainties discussed above where effective removal of such obstacles and uncertainties can only be achieved by statutory provisions. One purpose of the uniform law would be to enable potential EDI users to establish a secure EDI relationship by way of a communication agreement within a closed

network. The second purpose of the uniform law would be to set forth a basic framework for the development of EDI outside such a closed network in an open environment, including a regulation of some of the issues concerning the situation of third parties. The uniform law might contain provisions on all or some of the following issues:

- Definitions of such terms as: EDI; EDI message; acknowledgement of receipt; sender; receiver; receiving computer; reception date; third party service provider; authentication; computer record;

- "Writing" (see above, paras. 37 to 45);

- "Original" (see above, paras. 56 to 58);

- Admissibility of computer outputs as evidence (see above, paras 46 to 55);

- Signature and other authentication (see above, paras. 61 to 66);

- Consent, offer, acceptance and revocability in an EDI context (see above, paras. 70 to 73);

- Time and place of formation of contracts (see above, paras. 74 to 76);

- Reference to general conditions (see above, paras. 77-78);

- Minimum standard of care to be applied by parties communicating through EDI (see above, paras. 23-24);

- Use of functional acknowledgements and confirmation of contents of EDI messages (see above, paras. 80-81);

- Time within which a receiver should process the data (see above, para. 23-24);

- Liability for failure or error in communication (see above, paras. 82-83);

- Implications of rules of a professional nature, such as the SWIFT Rules (see above, paras. 23-24);

- Documents of title and security interests (see above, paras. 84 to 90);

- Applicable law and dispute resolution (see above, paras. 23-24).

ANNEX

UNIFORM RULES OF CONDUCT FOR INTERCHANGE OF TRADE DATA BY TELETRANSMISSION

[Text of ICC Publication No. 452, p. 6 to 11 and 16 to 19]

Participants in the Work of the Joint Committee

Intergovernmental and non-governmental international and national organizations having contributed to the preparation of the UNCID Rules of Conduct:

United Nations Commission on International Trade Law (UNCITRAL)

Special Programme on Trade Facilitation of the United Nations Conference on Trade and Development (UNCTAD/FALPRO)

Working Party on Facilitation of International Trade Procedures on the United Nations Economic Commission for Europe (UN/ECE)

Customs Co-operation Council (CCC)

Organisation for Economic Co-operation and Development (OECD)

Commission of the European Communities (EC)

International Organisation for Standardisation (ISO)

European Insurance Committee (CEA)

European Council of Chemical Industries Federations (CEFIC)

Organization for Data Exchange via Teletransmission in Europe (ODETTE)

as well as a regional and several national trade facilitation organizations (NORDIPRO - the originators of the concept -, FINPRO, NCITD, SIMPROFRANCE, SITPRO).

Introductory Note

I. The international trade transaction

The UNCID rules are meant to provide a background for users of EDIFACT (Electronic Data Interchange for Administration, Commerce and Transport) and other systems of Electronic Trade Data Interchange, hereafter for short EDI.

Users will have detailed knowledge of the cumbersome procedures involved in an international trade transaction, and the decisive advantages of electronic interchange. For illustration please see Annex 1 which shows data flows and message functions. [Annex 1 is not reproduced in this note]

II. The computer age - towards paperless trading

It is widely expected that the impact of computerization will be as great as that of the industrial revolution. Computers are already providing

all sorts of services at rising speed and diminishing costs. International trade data communication, however, seems to be a missing link. Yet the need is great. Not only do paper documentation and procedures represent as much as 10 per cent of goods value; they are slow, insecure, complicated and growing. The possibilities of cost reduction are in the order of 50 per cent, to the benefit of not only the main parties, buty everyone involved, not least the authorities.

This is why a major activity of the Trade Facilitation Working Party of the United Nations Economic Commission for Europe (ECE), over the last decade and a half, has been the creation of the tools that would make electronic interchange of data in international trade a secure, effective and cheap alternative.

EDI is the direct transfer of structured business data between computers by electronic means, i.e. the paperless transfer of business "documentation". (An illustration of this development is given in Annex 2). [Annex 2 is not reproduced in this note]

The past years have seen an explosion of interest in EDI between national and international trade participants. The technology is available and the momentum is growing. It is estimated that within five years EDI will be commonplace between majors in international trade transactions. But EDI cannot operate to any great extent without a common international standard, and progress has been made in drawing together different standards. Three building blocks are required: common data elements equivalent to the vocabulary; a syntax, which equates to the grammar in a normal language; and standard messages which combine data elements and syntax into a structured business message similar in concept to the paper document. These instruments are being created in the work coordinated by the ECE.

Alongside these technical developments thought and attention has also been given to what may be described as the "legal" aspects of EDI.

III. The legal background

Because of its physical characteristics, the traditional paper document is accepted as evidence. It is durable, and changes or additions will normally be clearly visible. The electronic document is quite different. It takes the form of a magnetic medium whose data content can be changed at any time. Changes or additions will not appear as such.

The paper and the data communication links are only media for carrying information, however, and it is possible to establish techniques which give electronic data interchange characteristics that make it equal or superior to paper not only as carrier of information, but also as regards the evidential functions.

Firstly EDI in itself presupposes procedures that make this form of communication more secure. In addition to identification this technique can also provide for error detection and correction. Authentication in the sense that the data content is correct can also be established, and privacy can be secured by several means built into the system. Finally, authentication, in the sense that the correct authorized person has issued the message, can also be secured.

That is why the ECE, the United Nations Commission on International Trade Law (UNCITRAL) and the Customs Co-operation Council (CCC) have recommended to governments and organizations responsible for determining documentary requirements, that they undertake and update and overhaul of these requirements to allow for EDI. This will, however, take time. It is also dependent upon a general acceptance of a high level of security in data interchange.

That is why it has been felt desirable to develop a set of internationally accepted rules - UNCID. The first draft was based on the idea of creating a standard for communication agreements. It was found, however, that due to the differing requirements of various user groups this was impractible. There was on the other hand general agreement on proposals for uniform rules as a code of conduct.

IV. UNCID

The International Chamber of Commerce (ICC) agreed to establish a Joint Special Committee with participation from other interested organizations and user groups to evaluate and formulate such a set of rules. UNCITRAL, ECE, CCC, the UNCTAD Special Programme on Trade Facilitation (FALPRO), the Organisation for Economic Co-operation and Development (OECD), the International Organisation for Standardisation (ISO), the Commission of the European Communities, the European Insurance Committee and the Organization for Data Exchange via Teletransmission in Europe (ODETTE) were all represented in this Committee in addition to various Commissions of the ICC.

In developing the rules the committee based its work on certain vital concepts, inter alia, that the rules should:

(a) aim at facilitating the use of EDI through the establishment of an agreed code of conduct between parties engaged in such electronic interchange;

(b) apply only to the interchange of data and not to the substance of trade data messages transmitted;

(c) incorporate the use of ISO and other internationally accepted standards - to avoid confusion;

(d) deal with questions of security, verification and confirmation, authentication of the communicating parties, logging and storage of data;

(e) establish a focal point for interpretation that might enhance a harmonized international understanding and therefore use of the code.

Acknowledgement and confirmation illustrate some of the problems found in developing useful rules. In some systems acknowledgement is a mandatory requirement. In others it is taken as good conduct. In others again the sender has to ask for it. UNCID opts for this last solution. In certain cases the sender will also want to know that the content of the transfer has been received in apparent good order and has been understood. The sender may then ask for confirmation. This of course touches on the material content - but only marginally. It should not be confused with the concept of legal acceptance - that is another (third) layer which is wholly outside the UNCID rules.

It was also foreseen that the rules could form part of, or be referred to, in any Trade Data Interchange Application Protocol (TDI-AP) or other specific communication agreement.

V. Need for specific communication agreements

User groups may be organized in several ways. But they all need some form of communication agreement, although requirements differ according to the groups in question and to what has been included in their "users manual" or "application level protocol", which is an agreement, but of a more technical nature.

Apparently there is a strong need for communication agreements where EDI is used by defined organizations. It is suggested that this need may be even more important in direct open communication.

Several user groups have stressed that the UNCID rules make a useful basis for their communication agreements. UNCID, agreed rules of conduct, give more than a mere starting point. Defining an accepted level of professional behaviour they also secure a common approach.

The details and form of communication agreements differ according to the size and type of the user groups. The agreement may be included in a protocol or form a separate document. It may contain additional rules, e.g. bearing on the substantive elements of the data exchanged, on the underlying agreement and on the professional approach. It is therefore not practical to formulate a standard model.

It may be useful, however, to outline certain elements that should be considered in addition to UNCID, when formulating an agreement:

(1) There is always a risk that something may go wrong - who should carry that risk? Should each party carry its own or would it seem possible to link risk to insurance or to the network operator?

(2) If damage is caused by a party failing to observe the rules, what should be the consequences? This is partly a question of limitation of liability. It also has a bearing on the situation of third parties.

(3) Should the rules on risk and liability be covered by rules on insurance?

(4) Should there be rules on timing, e.g. the time within which the receivers should process the data etc.?

(5) Should there be rules on secrecy or other rules regarding the substance of the data exchanged?

(6) Should there be rules of a professional nature - such as the banking rules contained in SWIFT?

(7) Should there be rules on encryption or other security measures?

(8) Should there be rules on "signature"?

It would also seem important to have rules on applicable law and dispute resolution.

UNIFORM RULES OF CONDUCT (UNCID)

As adopted by the ICC Executive Board at its 51st Session
(Paris, 22 September 1987)

Article 1 - Objective

These rules aim at facilitating the interchange of trade data effected by teletransmission, through the establishment of agreed rules of conduct between parties engaged in such transmission. Except as otherwise provided in these rules, they do not apply to the substance of trade data transfers.

Article 2 - Definitions

For the purposes of these rules the following expressions used therein shall have the meaning set out below:

a) Trade transaction: A specific contract for the purchase and sale or supply of goods and/or services and/or other performances between the parties concerned, identified as the transaction to which a trade data message refers;

b) Trade data message: Trade data exchanged between parties concerned with the conclusion or performance of a trade transaction;

c) Trade data transfer (hereinafter referred to as "transfer"): One or more trade data messages sent together as one unit of dispatch which includes heading and terminating data;

d) Trade data interchange application protocol (TDI-AP): An accepted method for interchange of trade data messages, based on international standards for the presentation and structuring of trade data transfers conveyed by teletransmission;

e) Trade data log: A collection of trade data transfers that provides a complete historical record of trade data interchanged.

Article 3 - Application

These rules are intended to apply to trade data interchange between parties using a TDI-AP. They may also, as appropriate, be applied when other methods of trade data interchange by teletransmission are used.

Article 4 - Interchange standards

The trade data elements, message structure and similar rules and communication standards used in the interchange should be those specified in the TDI-AP concerned.

Article 5 - Care

a) Parties applying a TDI-AP should ensure that their transfers are correct and complete in form, and secure, according to the TDI-AP concerned, and should take care to ensure their capability to receive such transfers.

b) Intermediaries in transfers should be instructed to ensure that there is no unauthorized change in transfers required to be retransmitted and that the data content of such transfers is not disclosed to any unauthorized person.

Article 6 - Messages and transfers

a) A trade data message may relate to one or more trade transactions and should contain the appropriate identifier for each transaction and means of verifying that the message is complete and correct according to the TDI-AP concerned.

b) A transfer should identify the sender and the recipient; it should include means of verifying, either through the technique used in the transfer itself or by some other manner provided by the TDI-AP concerned, the formal completeness and authenticity of the transfer.

Article 7 - Acknowledgement of a transfer

a) The sender of a transfer may stipulate that the recipient should acknowledge receipt thereof. Acknowledgement may be made through the teletransmission technique used or by other means provided through the TDI-AP concerned. A recipient is not authorized to act on such transfer until he has complied with the request of the sender.

b) If the sender has not received the stipulated acknowledgement within a reasonable or stipulated time, he should take action to obtain it. If, despite such action, an acknowledgement is not received within a further period of reasonable time, the sender should advise the recipient accordingly by using the same means as in the first transfer or other means if necessary and, if he does so, he is authorized to assume that the original transfer has not been received.

c) If a transfer received appears not to be in good order, correct and complete in form, the recipient should inform the sender thereof as soon as possible.

d) If the recipient of a transfer understands that it is not intended for him, he should take reasonable action as soon as possible to inform the sender and should delete the information contained in such transfer from his system, apart from the trade data log.

Article 8 - Confirmation of content

a) The sender of a transfer may request the recipient to advise him whether the content of one or more identified messages in the transfer appears to be correct in substance, without prejudice to any subsequent consideration or action that the content may warrant. A recipient is not authorized to act on such transfer until he has complied with the request of the sender.

b) If the sender has not received the requested advice within a reasonable time, he should take action to obtain it. If, despite such action, an advice is not received within a further period of reasonable time, the sender should advise the recipient accordingly and, if he does so, he is authorized to assume that the transfer has not been accepted as correct in substance.

Article 9 - Protection of trade data

a) The parties may agree to apply special protection, where permissible, by encryption or by other means, to some or all data exchanged between them.

b) The recipient of a transfer so protected should assure that at least the same level of protection is applied for any further transfer.

Article 10 - Storage of data

a) Each party should ensure that a complete trade data log is maintained of all transfers as they were sent and received, without any modification.

b) Such trade data log may be maintained on computer media provided that, if so required, the data can be retrieved and presented in readable form.

c) The trade data log referred to in paragraph (a) of this article should be stored unchanged either for the period of time required by national law in the country of the party maintaining such trade data log or for such longer period as may be agreed between the parties or, in the absence of any requirement of national law or agreement between the parties, for three years.

d) Each party shall be responsible for making such arrangements as may be necessary for the data referred to in paragraph (b) of this article to be prepared as a correct record of the transfers as sent and received by that party in accordance with paragraph (a) of this article.

e) Each party must see to it that the person responsible for the data processing system of the party concerned, or such third party as may be agreed by the parties or required by law, shall, where so required, certify that the trade data log and any reproduction made from it is correct.

Article 11 - Interpretation

Queries regarding the correct meaning of the rules should be referred to the International Chamber of Commerce, Paris.